What is claimed is:

1. A method for treating a neurological disorder in a subject, the method comprising administering an effective amount of SLURP-1 to a subject suffering from said neurological disorder.

2. The method of claim 1, wherein the neurological disorder comprises a pathology caused by dysfunction of an acetylcholine receptor.

3. The method of claims 2, wherein the acetylcholine receptor is a nicotinic acetylcholine receptor.

4. The method of claim 3, wherein the nicotinic acetylcholine receptor is selected from the group consisting of an alpha 7 nicotinic acetylcholine receptor and an alpha 7 nicotinic acetylcholine receptor related protein.

5. The method of claim 1, wherein the neurological disorder is selected from the group consisting of pain, neuropathic pain, schizophrenia, cognitive impairments, Alzheimer's disease, and Parkinson's disease.

6. The method of claim 1, wherein the effective amount of SLURP-1 is from about 1.0 pM to about 10 μM.

7. The method of claim 1, wherein the effective amount of SLURP-1 is administered to the subject by a method selected from the group consisting of orally, intravenously, intraperitoneally, intranasally, and intramuscularly.

8. The method of claim 1, wherein the method comprises administering an expression vector capable of expressing the SLURP-1 protein into the subject.

9. The method of claim 1, wherein the SLURP-1 is in a mature form.

10. The method of claim 9, wherein the mature form of SLURP-1 comprises amino acids 23-103 of SLURP-1.

11. The method of claim 1, wherein the subject is a mammal.

12. The method of claim 11, wherein the mammal is a human.

13. A method for preventing or delaying the onset of a neurological disorder in a subject, the method comprising administering an effective amount of SLURP-1 to a subject at risk of developing or suffering from said neurological disorder.

14. The method of claim 13, wherein the neurological disorder comprises a pathology caused by dysfunction of an acetylcholine receptor.

15. The method of claim 14, wherein the acetylcholine receptor is a nicotinic acetylcholine receptor.

16. The method of claim 15, wherein the nicotinic acetylcholine receptor is selected from the group consisting of an alpha 7 nicotinic acetylcholine receptor and an alpha 7 nicotinic acetylcholine receptor related protein.

17. The method of claim 13, wherein the neurological disorder is selected from the group consisting of pain, neuropathic pain, schizophrenia, cognitive impairments, Alzheimer's disease, and Parkinson's disease.

18. The method of claim 13, wherein the effective amount of SLURP-1 is from about 1.0 pM to about 10 μM.

19. The method of claim 13, wherein the effective amount of SLURP-1 is administered to the subject by a method selected from the group consisting of orally, intravenously, intraperitoneally, intranasally, and intramuscularly.

20. The method of claim 13, wherein the method comprises administering an expression vector capable of expressing the SLURP-1 protein into the subject.

21. The method of claim 13, wherein the SLURP-1 is in a mature form.

22. The method of claim 21, wherein the mature form of SLURP-1 comprises amino acids 23-103 of SLURP-1.

23. The method of claim 13, wherein the subject is a mammal.

24. The method of claim 23, wherein the mammal is a human.

25. A method of providing neuroprotection to a subject, the method comprising administering an effective amount of SLURP-1 to the subject wherein the

neuroprotection prevents a neurological disorder caused by dysfunction of an acetylcholine receptor.

26. The method of claim 25, wherein the acetylcholine receptor is a nicotinic acetylcholine receptor.

27. The method of claim 26, wherein the nicotinic acetylcholine receptor is selected from the group consisting of an alpha 7 nicotinic acetylcholine receptor and an alpha 7 nicotinic acetylcholine receptor related protein.

28. The method of claim 25, wherein the neurological disorder is selected from the group consisting of pain, neuropathic pain, schizophrenia, cognitive impairments, Alzheimer's disease, and Parkinson's disease.

29. The method of claim 25, wherein the effective amount of SLURP-1 is from about 1.0 pM to about 10 μM.

30. The method of claim 25, wherein the effective amount of SLURP-1 is administered to the subject by a method selected from the group consisting of orally, intravenously, intraperitoneally, intranasally, and intramuscularly.

31. The method of claim 25, wherein the method comprises administering an expression vector capable of expressing the SLURP-1 protein into the subject.

32. The method of claim 25, wherein the SLURP-1 is in a mature form.

33. The method of claim 32, wherein the mature form of SLURP-1 comprises amino acids 23-103 of SLURP-1.

34. The method of claim 25, wherein the subject is a mammal.

35. The method of claim 34, wherein the mammal is a human.

36. A method for treating a skin pathology caused by dysfunction of an acetylcholine receptor expressed in the skin, the method comprising administering an effective amount of SLURP-1 to a subject suffering from said skin pathology.

37. The method of claim 36, wherein the acetylcholine receptor is a nicotinic acetylcholine receptor.

38. The method of claim 37, wherein the nicotinic acetylcholine receptor is selected from the group consisting of an alpha 7 nicotinic acetylcholine receptor and an alpha 7 nicotinic acetylcholine receptor-related protein.

39. The method of claim 36, wherein the skin pathology is selected from the group consisting of Mal de Meleda, wound healing, and psoriasis.

40. The method of claim 36, wherein the effective amount of SLURP-1 is from about 1.0 pM to about 10 μM.

41. The method of claim 36, wherein the effective amount of SLURP-1 is administered to the subject by a method selected from the group consisting of orally, intravenously, intraperitoneally, intranasally, and intramuscularly.

42. The method of claim 36, the method comprising administering an expression vector capable of expressing the SLURP-1 protein to the subject.

43. The method of claim 36, wherein the SLURP-1 is in a mature form.

44. The method of claim 43, wherein the mature form of SLURP-1 comprises amino acids 23-103 of SLURP-1.

45. The method of claim 36, wherein the subject is a mammal.

46. The method of claim 45, wherein the mammal is a human.

47. A method for preventing or delaying the onset of a skin pathology caused by dysfunction of an acetylcholine receptor expressed in the skin, the method comprising administering an effective amount of SLURP-1 to a subject at risk of developing or suffering from said skin pathology.

48. The method of claim 47, wherein the acetylcholine receptor is a nicotinic acetylcholine receptor.

49. The method of claim 48, wherein the nicotinic acetylcholine receptor is selected from the group consisting of an alpha 7 nicotinic acetylcholine receptor and an alpha 7 nicotinic acetylcholine receptor related protein.

50. The method of claim 47, wherein the skin pathology is selected from the group consisting of Mal de Meleda, wound healing, and psoriasis.

51. The method of claim 47, wherein the effective amount of SLURP-1 is from about 1.0 pM to about 10 μM.

52. The method of claim 47, wherein the effective amount of SLURP-1 is administered to the subject by a method selected from the group consisting of orally, intravenously, intraperitoneally, intranasally, and intramuscularly.

53. The method of claim 47, wherein the method comprises administering an expression vector capable of expressing the SLURP-1 protein into the subject.

54. The method of claim 47, wherein the SLURP-1 is in a mature form.

55. The method of claim 54, wherein the mature form of SLURP-1 comprises amino acids 23-103 of SLURP-1.

56. The method of claim 47, wherein the subject is a mammal.

57. The method of claim 56, wherein the mammal is a human.

58. A composition comprising and effective amount of SLURP-1, a SLURP-1 mimetic, or a combination thereof and a carrier, wherein said composition modulates the function of an alpha 7 nicotinic acetylcholine receptor or of a related protein.

59. A kit comprising the composition of claim 58.

60. A method of treating a neurological disorder caused by the dysfunction of the alpha 7 nicotinic acetylcholine receptor, the method comprising administering the composition of claim 58 to a subject suffering from said neurological disorder.

61. A method of preventing or delaying the onset of a neurological disorder caused by the dysfunction of the alpha 7 nicotinic acetylcholine receptor, the method comprising administering the composition of claim 58 to a subject at risk of developing or suffering from said neurological disorder.

62. A method of treating a skin pathology caused by the dysfunction of an alpha 7 nicotinic acetylcholine receptor expressed in the skin, the method comprising administering the composition of claim 58 to a subject suffering from said skin pathology.

63. A method of preventing or delaying the onset of a skin pathology caused by the dysfunction of an alpha 7 nicotinic acetylcholine receptor expressed in the skin, the

method comprising administering the composition of claim 58 to a subject at risk of developing or suffering from said skin pathology.

64. A method for modulating the activity of an acetylcholine receptor, the method comprising contacting the acetylcholine receptor with an effective amount of SLURP-1, wherein the effective amount of SLURP-1 is from about 1.0 pM to about 10 μM.

65. The method of claim 64, wherein said modulation of the acetylcholine receptor restores the proper function of the acetylcholine receptor.

66. The method of claim 64, wherein the acetylcholine receptor is a nicotinic acetylcholine receptor.

67. The method of claim 66, wherein the nicotinic acetylcholine receptor is selected from the group consisting of an alpha 7 nicotinic acetylcholine receptor and an alpha 7 nicotinic acetylcholine receptor related protein.

68. The method of claim 64, wherein the SLURP-1 is in a mature form.

69. The method of claim 68, wherein the mature form of SLURP-1 comprises amino acids 23-103 of SLURP-1.

70. A method of screening for a modulator of acetylcholine receptor activity, comprising

a) exposing a first acetylcholine receptor with a candidate compound and measuring the activity of the first acetylcholine receptor following said exposure,

b) exposing a second acetylcholine receptor with an effective amount of SLURP-1 or a related compound and measuring the activity of the second acetylcholine receptor following said exposure,

c) comparing the activity of the first acetylcholine receptor following said first exposure to the activity of the second acetylcholine receptor following said exposure with SLURP-1 or a related compound, wherein, if the activity of the first acetylcholine receptor is similar to the activity of the second acetylcholine receptor, then the candidate compound is a modulator of acetylcholine receptor activity.

71. The method of claim 70, wherein the acetylcholine receptor is a nicotinic acetylcholine receptor.

72. The method of claim 71, wherein the nicotinic acetylcholine receptor is selected from the group consisting of an alpha 7 nicotinic acetylcholine receptor and an alpha 7 nicotinic acetylcholine receptor related protein.

73. The method of claim 70, wherein the effective amount of SLURP-1 forms a solution contacting the acetylcholine receptor at about 1.0 pM to about 10 μM.

74. The method of claim 70, wherein the SLURP-1 is in a mature form.

75. The method of claim 74, wherein the mature form of SLURP-1 comprises amino acids 23-103 of SLURP-1.

76. An antibody with high specific binding affinity to SLURP-1.

77. The antibody of claim 76, wherein the antibody is monoclonal.

78. The antibody of claim 76, wherein the antibody is polyclonal.

79. The antibody of claim 76, wherein the antibody is a humanized antibody.